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The Use of Basketry in The Hulls of Vietnamese Seagoing Boats. The Status as of 2015 and The Question of The Future

L'utilisation de la vannerie dans la construction des coques de bateaux de mer vietnamiens. État des lieux en 2015 et la question de l'avenir

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Articles

The Use of Basketry in the Hulls of Vietnamese Seagoing Boats

The Status as of 2015 and the Question of the Future

Preston Ken *

Any visitor to the Vietnamese coast in the past fifty years will have noticed people paddling about in large, round bamboo baskets waterproofed with tar or some sort of amber resin. Such round boats are ubiquitous all along the saltwater shoreline in Viet Nam and have been since at latest the 1940's when Jean-Bapstiste Pietri described them (Pietri 1943).

Woven Boat Construction

The round basket boats are usually made entirely of bamboo and the lashings needed to hold the upper "rim" of the basket on. In the past various other lashing materials must have been used, but since 2005 when this research began the only lashing seen in use anywhere on the coast is clear monofilament nylon fishing line. It is inexpensive, strong, easy to work with and durable, often lasting beyond the useful life of the bamboo itself.

Two different media are used to waterproof the basketry, black "tar" (bitumen) and various amber colored resins, usually reinforced with buffalo dung. This provides a mass of short but tough fibers from the partially digested vegetation that toughen the resin and aid in filling the weave of the basketry. Although it may crack and leak with age or impact, tar can be healed with a hot iron to flow it and reseal cracks. Similarly, the natural resins can be re-applied to seal cracks.

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Fig. 1. Round basket sculling
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Fig. 2. Resin & dung
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All basket-based boats have their fundamental construction method in common, though there are many differences in their shape of the boat and methods of reinforcement. Seeing a large round basket, one might assume that it had been woven "in the round". In fact all the various basket boats start as a flat woven mat.

The essential processes are:

– To prepare the bamboo for weaving and other purposes in the structure. The exact species of bamboo used varies from place to place, but the bamboo for the woven hull itself is always selected for long straight stalks with relatively long spaces between the nodes and with relatively thin walls. The stems are cut to length, then split, usually into halves, and the halves split again to produce weaving strips of a uniform size, varying with the size of the vessel to be woven. The strips are then split again, to separate the soft inner "wood" (which is discarded) from the hard durable outer layer.
– To weave the flat mat that will become the skin of the boat. This weave is always a twill of some sort, often "over 2—under 2", but many other twills are used for different sizes of boat in different regions. The round boats quite commonly are woven so that the actual bottom of the boat is woven as a square with an "over 2—under 2" twill. When the mat is big enough that the bottom is all woven (and obviously the 4 corners of the square will roll up to become part of the sides), the weaving changes to an asymmetrical twill, perhaps "over 2—under 5", and continued until the mat is large enough to form the desired round bowl. The asymmetrical twill is more flexible than the "over 2—under 2" sort, but also somewhat weaker. As each new strip is added to the mat it is firmly seated against its neighbor by driving it into place with a hardwood block the width of the strip, and a mallet. The weaver typically works while squatting on the ground or floor, with no other equipment or comforts.



Fig. 3. Weaving the mat
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- To either dig a pit or to set up the rim or gunnel on a set of stakes driven into the ground on the outline of the future boat. In some established weaving sites the stakes were left in the ground between building operations scattered around the yard, so a customer could choose the size and shape of his new boat directly.
- To roll out and force the mat down into the hole in the ground or into the gunnels or to weight it down and force its corners up. This may involve two or three men climbing “into the boat” and gradually walking back and forth to gradually distort the flat mat into a deeply dished shape. In some cases the mat will conform without adding stones for weight, but if necessary large stones or a filling of sand will be used to hold the mat still while it is lashed to the rim.
- To fit at least one “inwale” inside the woven basket, so that the rim lashing can squeeze the woven mat firmly between two or more pieces. Some boats are given a single half-bamboo outside the woven mat and inside, producing a round rim or gunnel. Other boats will have multiple layers of split bamboo wound round and round the rim both inside and outside of the mat, producing an extremely sturdy structural rim.
- To trim excess “mat” from the top of the new hull. Actually, this is often done as part of fitting the inwale, to simplify the temporary lashings that are commonly used to hold it all together while the permanent lashings are installed.
- To install ribs or frames, depending on local usage and individual builders. Some round baskets may have no ribs at all, though usually they have at least a few. Large or engine powered round baskets will have a great many ribs, sometimes very nearly covering the interior of the boat. All these ribs are installed after the boat is formed and secured in shape with its rim. The split bamboo that is to be a rib is carefully measured and its ends somewhat sharpened, it is literally “sprung” into position spanning across the hull, jamming tightly into the rim. However, bamboo ribs are often not used in more boat-like boats. Rather, framing of wood is installed, longitudinal stringers in the case of longer boats, then ribs, and deck beams or thwarts as well. If a motor is to be installed then engine bearers are arranged to support the weight of the motor and transfer the thrust into the shell of the boat. It becomes a complex wooden structure, with a woven bamboo skin.

In much of the southern two thirds of the country an un-reinforced bamboo basket is actually fitted into an existing wooden framework complete with a permanent wooden upper portion of the boat, to produce a composite hull, part wood and part woven bamboo. In that case, the upper wooden planking of the hull functions as the outer basket rim and a long, flexible wooden stringer is fitted into the interior and fastened through the upper edge of the basketry and the lower edge of the wooden plank to clamp the two components together.

The round shape for a boat seems completely counter-intuitive to most westerners since almost all western boats are much longer than they are wide, but round baskets do remarkably well alongshore and offshore as well. Having no rudders, skegs, keels or other underwater appendages they slide across the surface of a wave calmly and right way up, like a sea duck. They can negotiate small surf with ease, usually “surfing” inbound in a rush.

A round basket is normally "sculled" by weaving a single paddle, loose in two hands, ahead of the boat, pulling it back and forth through the water without ever removing the blade from the water, switching the pitch of the blade for each stroke. Larger round baskets often have a large paddle with a wide T handle for the boatman to grasp with two hands attached to the rim of the basket, an arrangement that allows substantially more power in the stroke than the free-hand loose paddle.



Fig. 4. T-handle paddle
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Modernizing the Traditional Round Basket

Although the round baskets work well in ordinary weather far offshore, their propulsion by paddle is laborious and they have been limited to nearshore areas or work near their mother ship. In the years since this research began (in 2005) there have emerged two different successful methods of powering round basket boats that radically extend their independent range.

The largest sizes can be powered with the smallest sort of single cylinder diesel engines that are widely used all over the region to power small equipment. In that case the installation is very similar to other inboard engine installations. A good number of ribs are usually added, sometimes to the point of nearly doubling the hull thickness. In this case, with the fixed propeller, steering is accomplished either with a short oar, or more often, with an outrigger cantilevered "astern" to position the rudder outboard behind the propeller.



Fig. 5. Ròn engine powered basket
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Smaller round baskets can be motorized by a very straightforward mount lashed or bolted to the rim for a typical “long tail outboard”, a pivoting mount for a unit combining engine and propeller. Such gasoline power plants are common throughout the country for riverine small craft, though their use on seagoing boats has been very limited in the past.



Fig. 6. Ròn Long Tail basket
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Uses and Range of the Round Basket

Today the round basket boat has penetrated every corner of the coast, fulfilling a great many needs. Perhaps the most common use for the smaller sorts of round basket boats is as a tender for a larger vessel, serving to carry people, supplies and fish between the ship and shore or to do chores offshore. Round baskets also serve as a local fisherman's only vessel. All up and down the coast, thousands of longshore fishermen launch their round baskets off the beach and fish nearby waters. A great many larger wooden vessels carry a fleet of round baskets on board to fishing grounds offshore. During the work day (or night) the baskets are put overboard with one or two men aboard to fish independently, so that the mother ship covers a great swathe of sea with her fleet, then gathers the baskets back aboard with their men and catch for a meal and a sleep. In the south of the country boats 60 to 80 feet long carry as many as two dozen round baskets aboard out to the fishing grounds.

Regional Non-Round Designs and their Specific Characteristics

Although the use of basketry for the watertight hull of the craft is a constant all along the coast from the Chinese border to the Cambodian, there are numerous regional and local variations on how the boat is built and used. In the protected waters of the Hạ Long Bay region a certain style of oval basket has completely displaced other sorts of small boat throughout its range and is quite different from other basket-based boats in the country, and so deserves special attention. South of the Hạ Long Bay Area through Thanh Hóa province on to Cửa Lò in Nghệ An province there is or has been a very successful style of wood-reinforced all-bamboo boat. Large numbers of these boats and their part fiberglass descendants are still working off Thanh Hóa beaches and can be readily observed. By contrast, on the beaches and harbors south of Đồng Hới in Quảng Bình province in central Viet Nam, all along the coast of the Huế area in Thừa Thiên province a very different boat concept is normal, using a heavy timber topsides and framing system to define the boat's shape and simply fitting a lower-hull basket onto the bottom. The region in between Đồng Hới and Cửa Lò includes three significant harbors (Cửa Ròn, Lý Hòa and Đồng Hới) that have numbers of basket-based boats that are not so "pure basket" as the Hạ Long Bay or Thanh Hóa boats, nor so clearly "half-timber" as the boats in the Huế region. They mark a zone of transition between the two traditions. The beaches and harbors of the southern portion of the country all have large numbers of round baskets and usually some variation of the wood-and-basket boat as well.

The Oval Boats of the Hạ Long Bay Area

The very numerous oval rowing and motor-powered baskets of Hạ Long Bay are very visible to tourists in the region and they are different from any other sort of Vietnamese basket boat. The very smallest sort, rowing boats are actually graceful and appealing little boats made almost entirely from bamboo.



Fig. 7. Small Hạ Long oval
©Ken Preston

Essentially all the other, larger baskets of the area hide the graceful basket in an ungainly framework of bamboo poles or timber, often with a complete timber deck, so that, from a little distance (and especially from a little height) they seem to be square, ugly wooden boats, perhaps with a bit of basketry showing through the deck at each end.



Fig. 8. Hạ Long squares
©Ken Preston

They are found only within the compass of Bái Tử Long and Hạ Long Bay in the far north of the country, though close relatives of several sizes are also to be seen occasionally in the backwaters of the lower Red River Delta around Hải Phong. Despite their lack of grace and beauty, they serve exceedingly well for a variety of purposes and suit their owners so well that essentially no other form of small boat is to be found anywhere within their range.

Probably the most common sizes of Hạ Long Bay basket are suitable for work as rowing water taxis or floating shops, 12 to 16 feet long, which will also serve for single fishermen or couples.



Fig. 9. Hạ Long floating shop
©Ken Preston

Quite large baskets 18 or 20 feet long or even longer, and correspondingly bulky are also very popular, most often with a semi-permanent arched cabin covering the middle half of the boat. Most of the baskets over 15 or 16 feet long are motor powered, using small single cylinder diesel engines mounted inboard. These boats usually have a full wooden frame for structural strength and rely on their basket hull just to keep the water out and are all waterproofed with black tar, never the amber colored sealer that is seen farther south in the country.

Their construction sequence begins by weaving the basket complete up to the gunnels. The completed basket is then sealed with buffalo dung and tarred, usually both sides, brushing on tar melted in a kettle. With the basket itself complete, the project becomes a wood-working job, as a full wooden framing system is installed.



Fig. 10. Hạ Long basket construction
©Ken Preston

Many of the joints in the framing are done by mortising and pegging or wedging the pieces together, though mild steel bolts (often galvanized) are used for some connections, notably the corners of the heavy square main frame. First a few (3 or more) light longitudinal stringers are laid directly against the basketry in the bottom of the boat. A few partial frames are prepared and fitted over the longitudinal wooden stringers, with deck beams extending above and outboard of the basketry. The heavy square wooden rim is placed next, first the longitudinal main beams, then the cross beams fore and aft that "hold up" the raised ends of the basket. Thereafter deck framing and actual decking are installed. The rudder in motorized baskets will be fitted through the wooden frame aft, not through the basketry.

Perhaps because the Hạ Long Bay region is so very steep, with many of the islands having no usable flat land at all, there is a long tradition of families living entirely afloat. In recent years, at least, there have been actual floating villages established in some of the sheltered bays around the islands, with homes, shops and schools floating on rafts of blue plastic barrels. But besides these floating villages, the region's boats are often homes for their crews. The smallest such, the rowing baskets working as one-man (or just as likely one-woman) harbor taxis are often equipped with a collapsible tarp and bamboo roof that can shield customers during foul weather and serve (with its sides rolled down) as a tent for the boatman to sleep under. The larger sizes of these oval basket boats are very commonly their owner's homes, often with a small

family living aboard full time and fishing for a living. The arched cabin amidships provides the primary shelter, but it is normal to have a pair of upright posts connected with a horizontal bar, fore and aft, which can support a tarp cover over the open ends, and can also serve to hang laundry to dry or fishing gear to repair. Cooking is most often done on the stern deck over a small dirt-filled wooden box hearth.



Fig. 11. Hạ Long family basket
©Ken Preston

Almost all these boats seem drab and ugly, with black tarred hulls, unpainted framing turning gray and nondescript cabin tops with perhaps some green anti-fouling paint from the waterline down, but individual owners sometimes add bright colored paint accents to the hull and deck.

Once south of Hải Phong, in Thanh Hóa and Nghệ An provinces, away from the sheltering islands of Hạ Long Bay, fishermen are exposed to the full sweep of the ocean and their boats need to have more open-water capabilities. The small near-shore fishing boats that have evolved are robust and burdensome. Until very recently there was a large family of very boat-like baskets working from beaches and small harbors along that stretch of coast, most readily accessible at Sầm Sơn town in Thanh Hóa and Cửa Lò in Nghệ An, though some varieties are dying out now.

The Sầm Sơn Style Boat

The typical Sầm Sơn boat (or its part-fiberglass descendant) which is still very visible in numbers on Thanh Hóa beaches, was evolved to work off the very flat sandy beach in front of the town, and was described by N. Burningham in essentially its current form as early as 1994 (Burningham 1994). Nowadays the boats are built in two sizes. The larger is powered by an inboard diesel engine and is about 16’ long and 5’6” beam. The other, smaller boat, built to almost identical model, is a pure rowing boat about 12’ long. Almost without exception they are waterproofed with tar and unpainted. Since they are brought ashore after every day’s fishing they have no need for anti-fouling paint and there is no tradition of painting them for ornament. Seen from a little distance, the boats evoke either a black “Turkish Slipper” or perhaps a tarnished “Aladdin’s Lamp”. Their bows are sharp and high and their sheer lines sweep gracefully down to a broad, nearly square stern. They are deep, buoyant, burdensome boats, capable of carrying substantial loads, though I’ve never seen them with large catches.



Fig. 12. Sầm Sơn motor basket
©Ken Preston

Like the Hạ Long Bay oval baskets, their entire bamboo hull, including gunnels is completed first, then interior wooden framing is added, and in much the same fashion. The larger boats normally have wooden floorboards and thwarts, but no decking. They ship a large square rudder well behind the boat itself, through a massive timber

which is bolted to one or two heavy thwarts just forward of the stern and cantilevers outboard. The rudder is made of three components, a wooden shaft that slides up and down freely through the heavy timber, a tiller, which will be any crazy stick, and the blade, made of several thin planks edge bolted to the shaft with thin threaded rod. The rudder only has two positions, down to work and up for beaching. The basket hulls of the Sầm Sơn boats were most recently built above ground, with their gunnels supported on stakes driven into the ground outside the workshop and the woven mat forced down into the gunnels from above. Rough timber framing, longitudinal stringers, built up frames, floorboards and thwarts are bolted together. An inner "keelson", a 3/4" x 4" plank installed in the hull on the centerline of the boat, is bolted through the basketry to a "shoe keel", a similar plank on the exterior of the hull. Similarly, a wooden wale, 3/4" x 3" more or less is bolted to the exterior of the hull a few inches below the bamboo gunnel and through the frames. These through bolted members effectively tie the wooden framing to the basketry. The engine and running gear installation is typical of all small Vietnamese boats.

The smaller, 12' long Sầm Sơn boats are very similar, but have no engine or rudder and may not have floorboards. Their rowing position is well aft, with the oars hung from tall stanchions and the boatman facing forward and standing, with his buttocks braced against a thwart behind him.



Fig. 13. Sầm Sơn small boat
©Ken Preston

As of 2015 in Sầm Sơn there are approximately 200 of the motor driven 16 foot boats, many of which now are actually fiberglass hulls. There are only a few of the smaller boats working and they seem to return very small catches of odd fish and crabs. Lacking engine power, they cannot go as far in search of fish as the engine powered boats. The majority of the basket boats come and go from several places along the 4.5 km beach that stretches from town to the north. None are based in the deep water port at the mouth of the river at the north end of the beach. However, there is a small artificial harbor south of the town (on the south side of the prominent rocky temple site) and a number of mostly fiberglass boats as well as larger wooden boats and rafts work from there, actually lying afloat most of the time. The beach-based boats are launched and retrieved on low slung axles provided with automotive wheels and tires. Although the boats usually fish single handed or with a 2 men crew, a larger gang is needed to load the boat onto its axle (done while barely aground at the water's edge) and to push the boat ashore across the wide sandy beach. Usually five or six people will push the boat and two more will pull on lines attached to the axle.

The End of Basketry at Sầm Sơn

Between February 2010 when at least one shop in town was still actively weaving traditional hulls and March 2012 when the shop's weaving ground was occupied by heavy road building equipment and the shop was producing the new style fiberglass boats, the boat building in the town underwent a transition from the traditional woven bamboo basket boat with heavy wooden framing to identical boats made, however, with fiberglass "baskets" supported by the traditional wooden interior framing. The fiberglass components are being produced now in two varieties. One utilizes a woven hull as a "plug" or male mold to lay up the new glass hull, so that the interior of the new boat shows a sharp clear casting of the old boat and the exterior shows a somewhat "blurry" version, as the details of the old hull are obscured by the layers of glass. The other version, perhaps by a different builder, produces a smooth hull with no sign of the woven texture, though the wooden framing is still the same. As of January 2015 there are still a number of the bamboo basketry hulls in service, but I could not find a builder still producing them, so they can be expected to disappear in the next five to ten years.

Remnants of Commercial Sail in Sầm Sơn

Sầm Sơn has been for many years home to sailing fishing vessels. Most recently documented in 1994 by Nick Burningham (*ibid.*), besides the baskets, there were large wooden sailing vessels and somewhat smaller sailing bamboo rafts. The large wooden sailing vessels are now built as pure motor boats, but the sailing rafts, although they've been equipped with diesel engines, continue to set sails for dragging nets downwind, though they cannot sail upwind. At that time the larger basket boats were fitted with an engine and also rigged to sail and at least some of the boats rigged to sail were provided with a dagger board to permit sailing upwind. Of the boats still working from Sầm Sơn beach, a very few are still rigged to sail, but the sail must be regarded as just an auxiliary to the engine.



Fig. 14. Sầm Sơn sail
©Ken Preston

Extinct Large "Sầm Sơn" Style Boats in Cửa Lò

During the 2006 field season one could still see six very large basket boats that were obviously close relatives to the Sầm Sơn beach boats moored together in the inner harbor at Cửa Lò, 100 km south of Sầm Sơn. With lengths of approximately 25' and beam of 8 to 9 feet, their hulls were proportionally a little longer for their width than the Sầm Sơn boats, but they had the same hull form, with the high, sharp bows, bold sweeping sheer and broad (but rounded rather than squared off) stern. They were set up with exactly the same odd rudder arrangement, with a large timber cantilevered out over their sterns, bored and slotted to accept the rudder. Unlike the Sầm Sơn boats, five of the six were loosely decked full length except for a small open cockpit right aft. The sixth was decked in similar fashion, but all the way from bow to stern. The weather was vile (it was mid-winter on the north coast) and only three photos of the boats exist from that field trip. Another expedition returned two years later and they were gone without a trace. There are a few things one can learn from the photos: They were powered by inboard engines, they had no sailing gear, though one did carry a long sculling oar. They were obviously fishing boats, carrying flagged buoys, but no specific gear was visible on deck. They were in good condition, in proper trim and with no sign of marine growth on their hulls, so were probably still working when photographed.



Fig. 15. Cửa Lò large baskets
©Ken Preston

Zone of Transition from "All Basket" to Half Wood

In the 320 km between Cửa Lò and Huế are three significant harbors with substantial fishing fleets, Cửa Ròn, Lý Hòa and Đồng Hới, all within about 50 km. The shore in this stretch of coast consists of long sandy beaches, occasional rocky headlands, and very occasional river mouths, which provide the harbors though they are encumbered with river-mouth and offshore sand bars. The numerous larger wooden fishing boats in these harbors almost all carry ordinary round baskets for tenders.

The sea conditions in the region often place a premium on small vessels with substantial ability in rough water and in each of the harbors there are a significant number of "boat-like" basket boats, both motorized and rowed, that have hull forms generally similar to the beach boats at Sầm Sơn or the extinct larger woven boats at Cửa Lò, though they are somewhat less extreme. They range between 11' or 12' long and 3-1/2' to 4' beam, with only oars for propulsion, to 16' to 20' long and 5' or more in beam, with inboard diesel engines and often a single sculling oar as well. None of them show any sailing capability, no masts, spars, or sails and no dagger boards. They have substantial interior wooden framing worked into their hulls as those northern boats have, but usually more, with wooden topsides planking instead of a bamboo "gunnel". Not surprisingly, the boats in the three harbors so close together are quite similar in design and construction, though there is enough variation from boat to boat and harbor to harbor to suggest a number of builders producing them. Around Huế, further south, the full development of large surf-launched open water composite baskets with stout, permanent wooden upper works and relatively insignificant replaceable woven bamboo bottoms becomes the norm and the northern style boats are seen no more. These boat-like baskets at Cửa Ròn, Lý Hòa and Đồng Hới, with

their wooden topsides plank, do seem to be a transition from all-basket to half-basket. Interestingly, these boats all have eyes!



Fig. 16. Ròn motor boat basket
©Ken Preston

Eyes for Traditional Vietnamese boats

Although Vietnamese modern motor fishing vessels do not have eyes, from Cửa Ròn on south both the remaining traditional wooden boats and these smaller composite wood and basketry boats have lovely elongate white eyes with black irises. Such eyes are essentially never seen further north and almost never seen on modern designs anywhere in the country.

Early motorization of round baskets—Cửa Ròn

Cửa Ròn seems to be a particularly productive locale for the advancement of modern motor-powered baskets. It is the first site where, during the 2010 field season, inboard powered round baskets, and smaller round baskets powered by longtail outboard gasoline engines were first observed. The larger, much heavier round Ròn baskets were very strongly built, with massive "rims" and so many split bamboo ribs that the ribs nearly comprised an inner hull. Their engines were installed under a pair of longitudinal "deck beams" that supported a wood deck above the engine, but also contributed enormous strength to the basket. Their engines were mounted normally on timber engine bearers, essentially parallel to their bottoms, so that the propeller shaft exited right through the steeply curved portion of the basket's "lower edge". This placed the propeller outboard of the basket entirely, so the rudder had to be placed even farther "astern", to which purpose, a surprisingly light wooden plank about 1" x 5" was bolted

to the rim and projected outboard about 16”. It was further braced by a strut that was bolted through the plate of the stern tube to form a solid triangular structure. At the time they were first observed, there were several of these boats and they seemed to be a fully developed arrangement. Since that time, even larger round fiberglass tubs have begun to be common up and down the coast, powered in similar fashion.

The Region of Grand Surf Boats, Huế (Thuận An) to Lăng Cô

The 220 km sweep of coast from just south of Đồng Hới in Quảng Bình Province, to Lăng Cô in Thừa Thiên province includes the barrier island and sand dunes that protect a shallow saltwater lagoon near Huế for over 60 km.

The ocean shoreline in this region is a long high-energy sandy beach with just an occasional rocky point jutting out into the South China Sea. It is home to two very successful varieties of surf boat that have survived at least since the 1940’s very little changed. These boats work off open ocean beaches, and though they may not launch in bad surf conditions, they do have to come home at times when the conditions have deteriorated and so they have evolved into very sturdy, very buoyant, beach boats that are well able to withstand the impacts and stresses of landing against hard sand in surf.

The smaller sizes are double ended canoe-like boats, essentially all-bamboo, though they have some interior framing added to stiffen the woven structure. A few of them, the largest, may be powered by the smallest sort of engine, but the majority are still rowed, and in rare cases, sailed to and from the fishing grounds offshore.



Fig. 17. Huế sailing surf boat
©Ken Preston

These smaller boats are normally crewed by one or two men, who are enough to work the boat back and forth between the upper beach and the water's edge as needed. They have very little carrying capacity and do not land large catches. The boatmen stand, facing forward to row, each man using a single long oar working on a permanent stanchion raised a foot or so above the gunnel. The stern oar, always deployed over the port quarter, is used primarily with a sculling and steering stroke when passing through the surf zone while the bow oar, always rowed over the starboard bow, pulls hard, for power through the waves. Once offshore the crew will either ship the oars and set sail (a very quick transition) or both pull ahead with the oars for passage making. The sail, when used, is a very simple standing lug sail, or less often, a triangular sail rather like a gunter lug. In either case, the sail is sewn from whatever inexpensive fabric is available. Spars are simple bamboos, and rigging is whatever inexpensive cord or line comes to hand. The boats have neither centerboards, keels, nor rudders, but use their oars for steering and lateral resistance.

The larger boats working from these same high-energy beaches are magnificent surf boats, with wide flaring hull form, deeply rockered from end to end, able to deal with breaking surf when need be.



Fig. 18. Huế large surf boats
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They are a hybrid or composite boat, half wood and half basket (more or less). Their upper works are hardwood planks bolted to heavy timber stems fore and aft. The planks are spread apart by hardwood thwarts and the lower hull, of bamboo basketry, is clamped to the upper works with a number of bolts or trunnels (wedged wooden "nails") that squeeze the basket between the outer plank and a long inner hardwood

batten. Longitudinal battens run along the bottom of the inside of the hull to support the basketry, while numerous hardwood ribs are lashed together and into the boat. They are loosely decked all over to provide a good working surface but the deck is often slatted and never tight.

Aside from the bolts or spikes that fasten the topsides planks to the stems fore and aft and the "clamping" bolts that hold the basketry (and the ribs) to the wooden frame, in many boats, all the other connections of the wood are made with lashings, rather than iron fasteners. The resultant boat, is a remarkably flexible structure that can move in all its parts without breaking. At worst, the tar sealing the weave of the basketry might crack and leak slightly, but repairs to the tar are easy. Occasionally one can observe small bits of framing that have sustained some damage, but overall the structure simply yields and returns without harm.

Although the wooden topsides planking flares markedly outward, the upper portion of the basketry where it joins the wooden upper works is noticeably wall sided, which gives the boat the carrying capacity for the heavy engine, the fuel, the fishing gear and the catch. Essentially every one of these boats is equipped with what looks like a pair of elongate bundles of bamboo almost as long as the boat and perhaps a foot in diameter, firmly attached to each side of the hull right at the juncture of the basketry and the wood. In reality, these days these "sponsons" are made of scrap expanded polystyrene packaging or even slabs of the EPS cut to shape, and protected and contained by the covering of split bamboo.

As recently as the American War, in 1963 these large half-wooden boats were worked entirely under sail and oar, with a pair of standing lug sails set on free-standing masts stepped through thwarts. A small fore-sail was set right up in the eyes of the boat and a larger mainsail nearer amidships. The *Junk Blue Book* noted that "[…] a few are reported to be motorized" (1962).

However, during and since the field season of 2006, literally hundreds of these boats all along this stretch of coast have been examined and none are equipped to sail. They are all diesel engine powered now. They have retained their sailing rudder however, a wooden rudder similar to others in Sầm Sơn and elsewhere, but sliding into a keyhole shaped slot in the sternpost. When launching, the rudder is often carried in the boat and passage through the surf is managed with a large steering oar, working over the port quarter. Once under way, the rudder is shipped by sliding it down into the slot in the stern post. Landing through surf, the skipper will continue to steer with the rudder until nearly the last moment, when another crewman will normally take over steering with the long oar while the skipper (alone) lifts the rudder out of its slot and inboard to prevent its grounding.

These boats range in size from 18' to as much as 26' long and are usually about three times as long as they are wide. Some of the very smallest are worked by just a pair of men, but the larger sizes always ship at least a 3-man crew, and all of them are heavy enough to require a large gang of people to work them up and down the beach. This is accomplished without wheels, rollers or mechanical power, by "rotating" them up or down the beach. Their deeply rockered shape means that if one end is picked up, the point of contact of the hull with the ground will move toward the opposite end. Thus, if the crew lifts one end and then walks it up hill (or down) 180 degrees, when they set the boat down again it will have gained several feet in

the desired direction. The bow stems of the boats are “notched” to accept a bar of bamboo or hardwood so that two to six men can pick up the end of the boat on their shoulders while also “walking” it around (usually with the help of several people pushing on the ends of the boat). The rudder slot (with the rudder removed) does not have such notches, but a piece of hardwood is provided, appropriately notched and shaped to slide in the groove in the sternpost and to wedge itself into position as the crew lifts the stern.



Fig. 19. Rotating a Huế surf boat
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On a day when fifty or more boats are launching from a narrow stretch of beach, there will be 150 crewmen and probably twice that many shore crew, working with heavy fishing gear and boats right in the surf, getting all the boats away (or safely back) in an hour or so, usually with not so much as a pinched finger.

The wooden upper works of these half-basket boats are essentially immortal, lasting through many replacements of the bamboo lower hull, which is replaced every four to seven years. The decking, ribs and longitudinal stringers must be stripped out (so the lashings are all renewed each time) and the bolts or trunnels removed to release the old basket from the upperworks.



Fig. 20. New basket in an old frame
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At that point only two or three slender thwarts continue to spread the top planks apart. A new basket bottom, woven separately, is then clamped into place, tarred inside, the framing replaced and the boat rolled over to be tarred on the exterior. Almost all of the framing is re-used in its same position again, though now and then one can see an obviously new bit of wood in a boat replacing something that was no longer serviceable.

From Huế South to Vũng Tàu and Beyond

From this area centered on Huế on to the south as far as Vũng Tàu at least, the same philosophical approach to small boat building persists, with a wide variety of boats ranging in size from quite small one-or two-man canoe-like boats to large open water fishing vessels. The details vary considerably, that is, the extent of the wooden topsides planking compared to the extent of the basketry, the use of one-piece bent bamboo ribs or the use of built up wooden ribs, decks or floorboards, or none, slender boats or beamy, rowed or motor driven, but among all the variants, the essential concept is that of a long-lived wooden upper hull combined with a flexible and resilient lower hull of bamboo basketry that is more or less easily replaced on a regular basis. As recently as the 1940's, Pietri reported that this sort of vessel was built in quite large sizes and made impressive long distance voyages under sail with cargoes up to 40 tons of rice, nuoc mam and other heavy goods (Pietri 1943). Other large fishing boat designs of this sort were very fast sailors and able sea boats and even during the years of the American war, went well offshore to work for days at a time (*Junk Blue Book* 1962).

The Inland Waters between Đồng Hới and Lăng Cô

The low-lying coastal plain in this region is laced with sheltered waterways and the beautiful lagoon at Lăng Cô. The area is served by a fascinating variety of boats, the smallest of which are one or two-man canoes made entirely of bamboo. They are almost always paddled these days, using traditional canoe paddles with a single blade, double paddles like a kayak's and, often when fishing, with very short pairs of paddles held one per hand and worked on either side of the boat.



Fig. 21. Paddling a Huế bamboo canoe
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Very rarely one might see a fisherman sailing one of these canoes with a very small light lug sail set on slender spars of bamboo.

Đà Nẵng and Hội An

Today Đà Nẵng is home to the last remnant of what was once a stunning wood and basketry sailing fishing vessel, the *Ghe Nẵng*. These boats are structurally very similar to the surf boats of the Huế area, but much larger, with typical boats ranging from 25 feet to 50 feet or more in length. They have complex wooden upper works with long heavy topsides planks, stems and sternposts. A number of longitudinal stringers support the woven bamboo lower hull, not just the bottom, but up the sides as well. Their ribs, spaced at 2' to 3' on center, are notched over the stringers. and many include a "deck beam" or thwart spanning across the hull, usually with a vertical post or two to support deck loads and a stout lashing to hold the frame all together. Smaller examples are usually undecked, but the larger boats are loosely decked overall.

As sailing vessels, these used to set a veritable cloud of sail on three masts. They were extremely fast and reasonably seaworthy(*Junk Blue Book* 1962, Pietri 1943). They carried a long, slender curved daggerboard that, rather than being shipped in a well amidships as is normal both in the West and China, was slotted into a keyhole shaped groove in their stems. When retracted it projected eight feet or more above the stem. Lowered a similar distance below the hull, it provided, with the rudder, adequate lateral resistance for excellent sailing upwind. Now all of the remaining boats (40 or more as of 2015) are motorized. None of them are rigged to sail and none carry the bow dagger board any longer, but almost all of them still have the characteristic groove in their stems. Although they originally shipped their rudders in a similar keyhole-shaped groove in their stern posts, they have all been converted to use a welded up steel plate-and-rod rudder shipped through a hole bored vertically through their sternposts. New vessels of this sort are apparently not being built, but the existing boats are generally being well kept up and working, though a few wrecks and derelicts are prominent on the beach. Their upper works are said to "last forever" (with periodic repairs) and the bamboo lower works to be "easy to replace."[1] That said, many of the boats still working have had fiberglass laid up over their basket bottoms.



Fig. 22. Đà Nẵng ghe nang (motorized)
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Besides this small fleet of heritage vessels, Đà Nẵng and Hội An have numbers of a recent design of oval basket boat, apparently designed from the outset as motor boats. They can be quite large and bulky, typically between 14' and 20' long and about half as wide as they are long. For all that bulk, they are quite attractive boats, built with a lot of flare to their sides and a healthy sheer, with their bows rising nicely. They have wooden external stem and stern posts bolted through their basketry, often

painted a contrasting color (red or blue!) and serving as a strong point for tie-up lines. Occasional specimens of the smallest sizes have been seen just tarred, without fiberglass cover, but almost all of these present day boats were covered entirely with a fairly thick layup of glass, almost obscuring their weave even when they were new. The larger sizes have partial decks about two feet below the gunnels, a short thwart near bow and stern and a midships thwart (quite a long timber!) spanning their full width. A flat-topped engine box aft provides a working deck and seating spot for the fisherman. Older boats of the type, seen in 2010 but obviously not new at that time, had a number of split bamboo ribs. However, in the recent boats there's obviously a lot of wooden structure inside their basketry, but most of it is concealed by the decking or floorboards and none have yet been observed under construction. The rim-gunnel in all cases is a very thick layup of split bamboo (not wood) normally edged with black plastic pipe to provide a snag free corner for nets to run across. The rim is very strongly lashed with monofilament fishing line, even when compared with other heavy basket boats. Many of these are seen lying afloat with their bottoms painted with antifouling, but the smaller ones are sometimes hauled up on the beach above high water.

Some of these boats are equipped with a welded up steel rod and plate rudder shipped through their sternpost. Since the propeller is just outside the basketry, the rudder must be installed at an acute angle aft to clear the prop, an arrangement that looks flimsy and vulnerable. However, probably half the examples seen do not bother with a rudder at all. Nearly all of them have the top of their sternpost worked into a stanchion for a steering oar and many of the boats use no other steering mechanism. These steering oars are relatively short compared to the sculling and steering oars typical on surf boats, and are apparently simply used in lieu of a rudder.



Fig. 23. Modern Đà Nẵng big glass basket
©Ken Preston

Quy Nhơn and Surroundings

The area around Quy Nhơn, 280 km south of Đà Nẵng, offers a number of examples of small to medium sized basket boats for use in both relatively sheltered waters and through surf to the open ocean.

As of the most recent field season in 2014, a few older wood-and-basket surf boats survived at Nhơn Lý, a village on the northern end of the peninsula north of Quy Nhơn, Their architecture is typical of the type, with single wide wooden topsides planks, wooden stems and ribs and a basket bottom. They lack the rocker and flare of the Huế area boats and seem to be in decline They share their bay with a larger fleet of all wooden boats of a somewhat more conventional design as well as many round baskets.

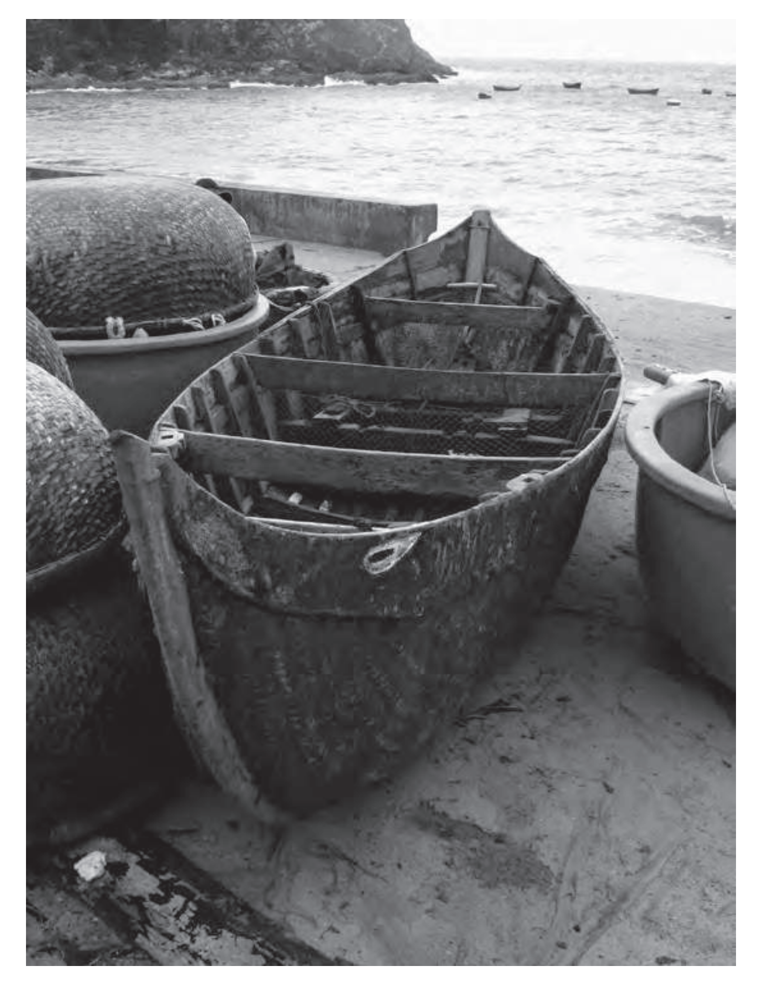


Fig. 24. Nhơn Lý motor surf boat
©Ken Preston

In the large semi-sheltered lagoon (called Đầm Thị Nại) behind the peninsula north of Quy Nhơn, and at the isolated and scenic village of Nhon Hai on its southeastern (open ocean) coast there are a great many slender rowing wood-and-basket boats, or more recent boats which utilize plastic or sheet metal in lieu of basketry, but to the same old design. These boats are similar to the type illustrated by Pietri in 1943. They are nearly symmetrical double ended vessels, with a peculiar structure, only seen in the Quy Nhơn area. Their wooden topside planks do not extend clear to bow or stern. Rather, the basketry continues somewhat beyond the wooden planks, and the relatively light battens that clamp the baskets into the wood frame continue with and inside the basketry in a sharp upward curve. On the exterior of the basketry, a wooden cutwater is lashed through the basket, extending for about a third of the length of the boat on the bottom as a partial shoe keel. At the tip of the bow the basketry, the two interior battens and the external cutwater are all joined together in a structure strikingly similar to some Aleut baidarkas. The similarity to the baidarka continues to the very light bent ribs of the basket boat, sprung into the hull full width, mortised into the underside of the batten that clamps the basketry to the topsides plank. These are smaller boats, usually no more than 18 feet long, but slender and shallow, nicely proportioned, more like a canoe than a row boat.



Fig. 25. Nhon Hai rowing boat
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The smaller sort are most normally rowed from a seated position, facing forward, with a tall back rest to lean against, using the feet and legs to row. The larger sizes are rowed standing, also facing forward, using a pair of oars long enough that the

rower's hands must overlap when he strokes. When the boats are rigged for rowing standing, the oar stanchions are placed well forward of midships and even the rower's position is slightly forward, a peculiarity of Quy Nhơn area rowing vessels, whether basket or all-wood.

South of Quy Nhơn a short ways the village of Xuân Hải looks across a long, steep sandy beach directly at the South China Sea and sends a fleet of at least fifty-two splendid basket- bottomed surf boats to sea. Their architecture is similar to other wood and basket boats seen along the coast, but they are particularly attractive and able. About twenty feet long and nearly eight feet wide, they have deeply rockered hulls, bold sheer lines, flaring widely side to side and reaching out over the water fore and aft. They are all very similar, made in the village by just a few individuals. Their topsides planks are wide single strakes of hardwood, with a few thwarts mortised in and projecting slightly beyond the plank outboard and at bow and stern they have a hardwood dowel piercing through both planks from side and one or two loops of small rope through their stems, all to aid in "rotating" the boats up and down the beach. They have wooden stem and stern posts outside their basketry and carrying on above their topsides planking usually painted a contrasting color. They have a dozen or so sawn ribs whose ends project up to the sheer line. Their internal structure is normally hidden from view by their gear and decking and in field seasons to date none has been seen under construction. Their basketry is sealed with resin, not tar, and their topsides are all painted, oranges, blues, greens and grays. They are pure motor boats, with conventional inboard diesel engines, but they do without rudders, relying on a long T-handled sweep for steering.



Fig. 26. Xuân Hải superb surf boat
©Ken Preston

These traditional surfboats share their beach with an even larger fleet of round bamboo basket boats and fiberglass tubs all equipped with long-tail outboard motors, all of which fish single handed. The entire fleet, both boats and round baskets returns en mass, making their approaches to the shore one, two or five at a time over a period of perhaps an hour. The surf boats seem to all fish with 3-man crews to handle their gear, though just two men handle the boat, the skipper with his steering sweep and an engine man who sits on top of the engine box or on the floorboards right in front of it, to run the throttle and gear shift.

The beach extends a long ways to the south but ends abruptly in a rocky point at the north end. The surf can be quite wicked just offshore along the beach but there is usually a calmer spot right along the rocky point. All the boats approach the beach and pass through the break close to the rocks, then turn sharply to the south (left in this case) and run down the beach, beam on to the surf offshore and the shore break all around them until they come to their own particular bit of sand, where they pick their moment among the waves and turn in to land.



Fig. 27. Xuân Hải action
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Landing, like leaving, is attended by much of the village. As on the beaches in Thừa Thiên province, the heavy boats are moved up the beach by rotating them, picking up the down hill end of the rockered boat so that its point of contact with the ground moves uphill, then simply walking the raised end up the hill 180 degrees,

thus gaining several feet up the slope. The round fiberglass tubs and baskets, too heavy and having their engines in the way, cannot be rolled up the hill as smaller round boats can be, so they need as many people to simply drag them up hill as the much larger surf boats need to be rotated up.

South of Quy Nhơn about 20 km the coast road crosses a wide river, rejoins the main highway (AH-1) which for the next twenty kilometers proceeds through a region that skirts two large, nearly enclosed bays with a low lying shoreline below scenic hills. There are large numbers of shrimp ponds and offshore anchored fish pens as well as large areas of productive fishing water. The area supports many watermen and their boats, which are unusually attractive. Whether larger, all-wood motorboats or smaller, lighter wood-and-basket rowing boats, they are typically colorful, graceful double enders. Since this is a wide area of relatively protected water, the basket-bottomed rowing boats here have developed with an emphasis on ease of rowing and the ability to cover distance under oars.

There seem to be two classes of these narrow rowing boats, both about 14 to 16 feet long. The differences between them are slight, simply a matter of a little more or less slender for their width. The slenderest, in the same class with a modern sea kayak, are rowed sitting down using the legs and feet to row, with the boatman's back braced against a tall backrest. The (only slightly) beamier boats may be rigged to row either seated, with a back rest and the oars on short stanchions, or standing up, facing forward, with the oars hung from tall stanchions.



Fig. 28. Sông Cầu foot rower
©Ken Preston

The boats are built with typical wood-and-basket architecture, with the pair of upper works planks bent to define the boat's overall shape, secured to chunky internal stem and stern posts, with two or three thwarts (one of which will be a broad seat if the boat is to be rowed with the legs), a few widely spaced, slender bent ribs in the middle of the boat, and external "stems" running from the bow and stern about a quarter of the length of the boat at each end. The basketry is always sealed with the amber-colored resin and dung mixture (not tarred) unless it is blue plastic from used barrels. Boats built to this exact design and use are frequently made nowadays using panels cut from the ubiquitous blue plastic petroleum-product barrels, riveted together, to replace the basketry.

Nha Trang, Moving On from Basketry

Nha Trang, 180 km south of Quy Nhơn, is the premier beach resort on the Vietnamese coast. It is also a major fishing port, with a huge fleet of both offshore and local fishing vessels, most of which of course carry round basket boats for tenders. As recently as 2005 and 2006 there were still a number of more "boat like" baskets, mostly actually rather primitive, tarred all-bamboo rowing boats about 16 feet long. They worked primarily in meeting fishing boats inbound after a night at sea, competing with many round baskets, taking the catch ashore to informal fish markets along the river banks in the middle of the city. With the construction of the new fish market at Hon Ro south of the city and the redevelopment of the downtown riverfront into promenades and cafes, the need for those boats has passed. Today, most of the local watermen's needs are filled well by ordinary round baskets with typical paddles. Nha Trang, however, has lead the way in substituting sheet metal for the basketry in their wood-and-basket boat building, so much so that the builders have moved on from producing wood-and-sheet metal canoe-like rowing boats, past any semblance of traditional rowing or sailing boats and are now building quite large and powerful motor-launches with wooden topsides and a lower hull "basket" of riveted sheet steel. This evolution is wide spread now, far beyond Nha Trang to north and south. Builders are using either sheet metal or salvaged plastic from barrels, riveted together to make the equivalent of the basket portion of a wood-and-basket boat. In Hội An, for example, where the part-basket boats were once very common, they are no longer made, but many of the smaller double ended rowing and motor boats there are made with wooden upper works and sheet aluminum bottoms. In Quy Nhơn and on the peninsula to the north, although there are still many of the basket bottomed boats in evidence, all the new construction seems to be either wood and aluminum or wood and blue plastic.

Just south of Nha Trang in Cam Ranh Bay there are still some traditional wood-and-basket rowing boats, some doing service as harbor taxis, carrying fares between the shore and fishing vessels or fish pens offshore. This variety of rowing boat was extremely common in the southern part of Viet Nam as recently as the 1960's as shown in the 1962 *Junk Blue Book*. The boats were then commonly built as all wooden boats as well as basket bottomed, though the basket-bottomed were said to be more common. At a glance, it was not apparent which construction was used, as

the wooden upper works of these boats were more complete than in examples seen further north. One such photographed in Cam Ranh in 2013, an 18' x 4' double ended rowing harbor taxi, is a good example. The boat has three wooden topsides planks, extending almost to her light waterline amidships, so that only a small wedge of her tarred basket bottom can be seen at bow and stern, showing on either side of the lower extension of her wooden stem. The side planks land in rabbets on the wooden stems at each end, and, are held in place by nine sawn wooden ribs. Four thwarts spread the sides, braced with heavy knees against the ribs, and a full wooden working deck, planked crosswise, is built at the level of the thwarts. All of this is just as you would expect in an all-wood boat of the region. As in other wood-and-basket boats further north, this sort of construction allows for replacement of the basket bottom every four or five years, and the wooden upper works, if maintained, will have a very long life. This example is rigged to row standing on the working deck, with the oars hung on tall stanchions, pivoting about 14 inches above the gunnels.



Fig. 29. Cam Ranh harbor taxi
©Ken Preston

South of the Nha Trang area, there is an anomalous species of all-basket motorboat with a high, sharply pointed bow and a rounded stern, common, with slight variations in Phan Thiết and La Gi. Neither Pietri nor the *Junk Blue Book* describe a similar boat, but it could easily be argued that they are simply a conveniently basket-built version of otherwise similar, if somewhat larger local all-wooden motorboats. These boats are heavily covered with fiberglass on all their exterior surfaces, in the case of

the Phan Thiết variety, right over the round gunnels and down inside the hull several inches. The Phan Thiết variety has a few bent bamboo ribs, but appears to rely on its fiberglass for hull stiffness. Although the La Gi boats are also heavily fiberglassed below their wooden gunnels, they have a full set of sawn wooden frames and prominent red-painted external stems extending to the waterline.



Fig. 30. La Gi glass covered basket
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Both types steer with welded up steel rod and plate rudders shipped right aft through the arc of their basket sterns. Both types lie afloat in harbor when not at sea and do not work off a beach.

The Far South of the Country—Round Baskets

South of La Gi, in Vũng Tàu and around into the waters of the Gulf of Thailand, at Rạch Giá and Hà Tiên, there are great numbers of round baskets of various sizes working as tenders to larger vessels or going to sea as a flotilla of baskets fishing from a mother ship, but the other sorts of longshore boats are all-wooden and the more complex sorts of wood-and-basket boats are generally not found, so this marks the southern limit of the current region of Vietnamese "boat like" baskets and composite wood and bamboo boats.

Looking to the Future

Although it is possible that the combined results of governmental policy, which is currently encouraging construction of large distant waters fishing vessels and actively discouraging nearshore fishing,[2] combined with the ongoing deforestation of Viet Nam, Laos and Cambodia and the continuing depletion of near-shore fish stocks, taken together, will greatly reduce the numbers and types of small boats fishing in Vietnamese coastal waters in the next few decades. None the less, it seems likely that the light, cheap, versatile woven basket or wood-and-basket boats will persist as long as there are fish left to catch or chores to do in coastal waters.



Fig. 31. The end (of the basketry, not the boat!)
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Notes

1. Nguyen Ai Do, personal communication, Đà Nẵng, December 2014.
2. Mr. Nguyen Quang Vinh, Personal Communication, Hanoi, November 2014.

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Abstract: Vietnam has a long tradition of building various sorts of boats for seagoing work that are either purely bamboo basketry, or a composite structure consisting of the bamboo basketry supported by greater or lesser amounts of wooden structure. Numerous authors have commented that these boats are more resistant to shipworm than wooden boats and that they are more flexible, better able to survive work in the surf zone. The extremely pragmatic Vietnamese water men simply use them because, for the investment, they best serve the need. These boats take many forms, some of which have spread to every corner of the country's coastline (e.g., the round variety) and some which remain very local species, found only in the area where they have evolved. Many of them have a long history of development through decades or more, as rowing and sailing vessels, perhaps recently converted to engine power, while others seem to have been recently developed to fill local needs with a relatively inexpensive and durable boat. This paper is the result of 9 years of annual field expeditions of six weeks to two months each, during which the region's boats were sought out and photographed. Thus, this is the first hand description of the “state of the fleet” as of 2015. It is the author's expectation that the coastal fishing fleet in the region will undergo radical changes in the coming decades, as a result of legislation and regulation, in response to the availability of other boatbuilding materials and also from the consequences of depletion of both the fish stocks and the forests that have provided the need for boats and the boat building materials. The purpose of this work is to document the vessels in use today and during the past decade, and only secondarily to make any connection to the previous century(s) or imagine the future.

L'utilisation de la vannerie dans la construction des coques de bateaux de mer vietnamiens. État des lieux en 2015 et la question de l'avenir

Résumé : *Le Viêt-Nam a une longue tradition de construction de variété de bateaux destinés aux travailleux de la mer. Ces bateaux sont constitués soit de vannerie uniquement à base de bambou, soit d'une structure mêlant vannerie de bambou soutenue par des quantités plus ou moins importantes de structures en bois. Les nombreux auteurs qui*

ont écrits sur le sujet ont remarqué que ces bateaux étaient plus résistants aux tarets que les bateaux en bois, qu'ils étaient plus flexibles et plus aptes à survivre au travail dans les zones de vagues. Les hommes de la mer vietnamiens, extrêmement pragmatiques, les utilisent simplement parce que, comparativement à ce qu'ils investissent, ce sont eux qui répondent le mieux à leurs besoins. Ces bateaux prennent beaucoup de formes, dont certaines se sont étendues à chaque coin du littoral (la variété ronde, par exemple) tandis que d'autres restent très locales, se trouvant seulement dans la zone où elles ont été développées. Beaucoup de ces embarcations se sont développées sur des décennies, voire plus, comme ces vaisseaux de guerre et de navigation, récemment convertis à la puissance du moteur, tandis que d'autres bateaux, relativement peu coûteux et durables, semblent avoir été récemment développés pour remplir des besoins locaux. Cet article est le résultat de neuf ans d'expéditions annuelles de terrain allant de six semaines à deux mois chacune, pendant lesquelles les bateaux de la région ont été recherchés et photographiés. Ainsi, il s'agit de la première description manuelle « de l'état de la flotte » en 2015. L'auteur fait l'hypothèse que la flottille de pêche côtière dans la région subira des changements radicaux lors des prochaines décennies, résultats d'une législation et de règlements, en réponse à la disponibilité d'autres matériels de construction de bateaux, ainsi qu'en raison de l'épuisement du vivier de poissons et du stock de bois des forêts qui jusqu'à présent provisionnaient le besoin de bateaux et les matériaux de construction. L'objectif de cet article est de documenter la recherche sur ces navires dans leur utilisation actuelle et lors de la décennie passée, et secondairement, de faire un lien avec le(s) siècle(s) précédent(s) ou d'imaginer l'avenir.

Keywords: boat, bamboo, basketry, wood-and-basketry, resin, tar, monofilament, Vietnam.

Mots-clés : *bateau, bambou, vannerie, bois et vannerie, résine, goudron, monofilament, Viêt Nam.*